

The Effect of Change Management on Operational Excellence moderated by Commitment to Change: Evidence from Malaysia

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ABSTRACT: The objective of this study is to investigate the relations between soft factors in the change management (i.e. leadership, human resource & culture) and operational excellence (OPX), and employee' affective commitment to change (ACTC) as a moderating variable. Based on the literature review, the authors develop a linkage that the change management factors are likely to contribute positively to the OPX of the organization. A survey of a sample of Malaysia's manufacturing leading sector, electrical and electronics (E&E) industry was conducted between February 2013 and June 2013. More than 100 organizations responded to the questionnaire survey. Data were analyzed using multiple regressions and hierarchical regression. The theoretical framework was guided by resource-based view perspective. The analysis found significant, positive relationships between transformational leadership style, human resource practices and involvement cultural trait on achievement of OPX. The research had mixed findings, partially supports the moderating effect of ACTC on relationship between the change management and OPX. The contribution to a body of knowledge in terms of promoting better understanding of the operational excellence in Malaysian E&E industry. Practical adoption of change management may improve infrastructural decision areas of manufacturing strategy such as benchmarking, best practices, quality practices and human resource policies. Therefore, it has implication on activities concerning organization and managing change.

KEYWORDS: Operational management; Operational excellence; Change management; Leadership; Electrical and Electronics (E&E) industry.

1 BACKGROUND

Recent studies on operational excellence focused on industrial context such as security [1], oil and gas [2], and university [3]. On a contextualized perspective, the Electrical and Electronics Industry is crucial to be revealed particularly on the soft issues which have been neglected in many ways by the previous studies. This is in line with [4] stressed the failure of system implementation such as ERP is because of the lack of attention to the soft issues. Hence, the latest development on the change management and operational excellence has evolved. The focus is on the enhancing of the customer value and ensures the sustainability (for example, [4], [5]). [5] stated the departure from the status quo to a desirable state in accordance to the challenges and opportunities faced by the companies. Furthermore, the alignment is necessary in the hard and soft factors with the company strategy.

How firms achieve and sustain competitive advantages and pursue business excellence is one of the fundamental questions in the field of business performance ([6], [7]). Most organizations that have not reached the excellence levels may not have done so due to management that does not have a profound understanding what it really means to be excellent. To guide organizations on their journey towards excellence, investigations have largely focused on the identification of critical variables that might better explain how organizational change can be managed to the best effect [8]. Therefore, this study will provide an insight in understanding the contemporary influential systems that affect business excellence, particularly

excellence in operations. The influential systems may serve as pre-conditions for any companies before embarking on the management of organizational change.

The influential systems could be categorized either a 'soft' or a 'hard' [9]. [9] recognised the important of soft dimension in terms of skills, staff, style, system and shared values along with structure and strategy of hard dimension. Furthermore, [10] described hard system have precise objectives that can be expressed in mathematical terms while soft systems are used in relation to human activities where there is unlikely to be agreement about the precise objectives of the system. Additionally, the implementation of change may need commitment from the employee himself. [11] pointed out that employee attitudinal commitment such affective commitment to change is associated with employees' capacity to deal with organizational changes.

When review the development in the world business market such as the issues of globalization, fierce competition and technology advancements, [12] suggested that manufacturing organisations in Malaysia need to have an ability to adjust and change to survive the challenging business environment. Organizations need to have a new set of capabilities to ensure their survival and growth in the market. Managers in a firm need to build its own internal competencies to deal with organization issues, change, and strategizing. Even through E&E manufacturing sector is an important contributor to Malaysia's economic with manufacturing output, exports and employment, however, Malaysian E&E industry faces significant challenges in maintaining growth with growing competition from Taiwan, Singapore, China and other Asian countries. The E&E's share of Malaysia's exports has gradually declined from 59 percent in 2000 to 41 percent in 2009 [13]. Therefore, Malaysia E&E's organizations need to have a new set of capabilities to ensure their survival and growth in the market. Managers in a firm need to build their own internal competencies to deal with organization at issues, changes, and strategies.

2 LITERATURE REVIEW AND THEORITICAL FRAMEWORK

2.1 RESOURCE-BASED VIEW (RBV)

The RBV is one way of viewing the firm from inside out from a strategic perspective. The RBV theory emphasized the use of its internal resource and its developing capability within the firm as a source of competitive advantage. Numerous of its capabilities and resources on which competitive advantage are based, live entirely in its operational function [14]. The RBV deals with the competitive environment facing the organization but takes an '*inside-out*' approach. Its starting point is the organization's *internal* environment. Thus, its internal capabilities determine the strategic choice it makes in competing in its external environment. For example, build up a high performance team for a company to remain competitive and long term success in both economic and social aspects.

On the operational excellence, RBV is found appropriate, presenting internal resources as a crucial element to gaining a sustained competitive advantage and superior performance that is the operational excellence ([15], [16]). The current study corresponds to the soft factors in E&E to the operational excellence. The core competencies explain the companies' competitive success based on their competencies. Furthermore, RBV points to intangible resources as the main drivers of the sustainability of performance differences across firms. In fact, such assets that are scarce, specialized and difficult to trade, imitate, or appropriate are viewed as intangible [15]. A variety of definitions have been offered when refer to these resources. Therefore, the argument established in this study is focus on the managing firm's resources as determinants for operational excellence. The changes of the firm internal resource were identified through the operational excellence indicators.

2.2 OPERATIONAL EXCELLENCE

European Foundation for Quality Management [17] defines excellence as "outstanding practice in managing the organization and achieving results". [18] argued that operational excellence is not just a matter of cost reduction and quality improvement, but also being smart about how to handle people and resources. It requires solid change management capability and strong leadership to become operational excellence. Operational excellence is also very much dependent on employees' empowerment, ownership and a culture of continuous improvement. Its adoption and introduction usually confronts a company with the need to change the way its employees think and act.

[19] conducted an investigation the use of business excellence in Asian organizations. Organizations in the manufacturing sector accounted for more than 40 percent of the total survey population. Even through organizations believe that deploy business excellence is important in helping them reach key objectives but the Asian region still suffers from some barriers including lack of development of a business excellence culture, a lack of resources and a failure to fully train the staff in

business excellence. This study has examined the deployment of business excellence in five Asian countries (Japan, India, China, Thailand and Singapore) would be a gap undertake future study on other Asian counties which maybe at different stages of business excellence maturity.

[20] analyzed the success rate factors of company in achieving the excellence of business subjects in the Slovak Republic. The results showed that success rate factors do not lie in monetary values but in the overall functioning of the company. In other words, in de facto non-economical factors which reflect the level of innovations, employee's satisfaction, customer's satisfaction, and social responsibility. Therefore, identification of correct factors of success rate serves more and more for the needs of looking for correct decision of organization. In view of this, non-economical factors of success rate, also known as non-monetary factors are substantiated for the needs of a business company. On the other hand, [21] analyzed the meaning of sustainability and its relation to excellence in an era of management transformation, integration and evolution. They found that sustainability and excellence are two interrelated concepts. These two interrelated concepts have contributed in shifting the national, corporate and sometimes individual mentality to include the world and the society. The rapid enlargement and intensity of environmental and social consequences of the dominant global model push organizations towards an adoption of sustainability challenges and maintain their competitiveness through excellence.

In recent study, [22] examined factors that lead to sustained excellence whether they are "evergreen" or stayed the same over time. The eight factors included organizational design, process, strategy, technology, leadership, individuals and roles, culture, and external orientation. The finding shown that nearly 90 percent of the factors that create excellence found in studies done in and before 1995 are also found in studies done after 1995. Although the characteristics of factors may shift from time to time, however, those factor found to seem qualify as "evergreen of excellence" that are always crucial for creating and maintaining a high performance organization. In this respect, the research into factors that create excellence, as found in the earlier or recent literature, are constant over time.

In this study, results from application of operational excellence are focused operational performance and organizational sustainable performance. Operational performance reflects the performance of internal operations of a company in terms of quality improvements, flexibility improvement, delivery improvement, productivity improvement, cost and waste reduction. The organizational sustainable performance indicator measures in present study are environment performance and social performance, while the financial measures such as sales growth, profit growth, return on equity (ROE), return on assets (ROA) and gearing [23] will be ignored. In fact, many E&E manufacturing firms in Malaysia are owned by foreign investors and may listed in the their home country, thus the respondents may not be privy to the information and data related to financial performance. Although performance can be measured either as financial performance or as operational performance, operational priorities are more relevant than financial goals at the plant level [24]. It is therefore the discussed performance indicators (quality, time, flexibility, cost and sustainability) will be used to measure firm performance in achieving operational excellence. More specific, the dependent variable, operational excellence will be operationalized by quality, flexibility, speed, cost, social and environmental in present study.

2.3 CHANGE MANAGEMENT

Due to the fact that the future and success of every organization depends on how well manager handle change [25], therefore, discussion on this research is assessing the relationship between change management and operational excellence. In addition, the integration of soft factors to predict operational excellence may not have a profound understanding by both academic and practitioners. This paper focuses on the soft factors in the E&E industry.

In the past organizational changes processes, many organizational only focus their efforts on hard factors. However, [9] argued that most successful companies work hard at the soft factors. Indeed, the soft factors can make or break a successful change process simply because we cannot impose hard systems on the organization without considering the effect on people [10]. With this approach, the researcher attempt to integrate the 'soft' factors under the change management. Based on literature review, three soft factors were identified in this study were included leadership style, human resource and organizational culture.

2.3.1 LEADERSHIP STYLE

Leadership is the other key component of successful change. Leadership is the first criterion of the European Foundation for Quality Management (EFQM) Excellence Model, a model of organizational excellence which is used by more than 30,000 organizations across Europe [26]. While change management depends on leadership to be enacted, specifically, the leadership style that is primarily concern with the capabilities required enacts change successfully ([27], [28]). Recent study by [29] further addressed the importance of success in enacting change is a crucial issue faced by today's organizational

leaders. Indeed, most of the research on the leadership paradigms has focussed on its relationship to followers ([30], [31]); organizational outcomes such team performance ([32], [33]); and financial performance [28]. Based on researchers' knowledge, there were limited literatures done on leadership styles and its impact on operational excellence in manufacturing industry, especially in the Malaysian setting.

Leadership has been recognized as a major factor on organization success and this has been empirically validated throughout many fields. However, a leadership style in the context of change management and its impact on operational excellence in manufacturing industry has not been as widely research. Moreover, a transformational style of leadership is perceived can produce positive organizational change and create exceptional performance than transactional and laissez-faire leadership ([34], [35], [27]). In the present study, we are interested in examining the positive impact of transformational leadership style on operational excellence.

2.3.2 HUMAN RESOURCE

Any change program would revolve around people, changing their mind set, behaviour and motivational level. Human resource has always been central to organizations, to-day it has taken on an even more central role in building a firm's competitive advantage. Success increasingly depends on "people-embodied know-how". Thus, includes the knowledge, skills, and abilities imbedded in an organization's member. [25] argued that Human Resource is an intellectual asset, the sum total of the knowledge, skills and competencies that an organization processes and channelizes for sustained organizational excellence. Excellence is surpassing on outstanding achievement, achievable by the use of Human resource strategies and practices as tool.

[36] suggested that the future role of the Human resource function should focus on helping their organization to learn how to build a capability to change. In authors view, the human resource practices are Human resource tools use by organization to achieve excellence. It helps to develop human capabilities and organizational competencies to achieve success. However, very little attention has been paid to address the impact of managing human resource change on operational excellence. The universal use of Human resource practices such as recruitment and selection, training and development, performance appraisal, and compensation and benefits ([37], [25]) could be explored in present study to predict operational excellence. New knowledge generate from this study could inform theory building efforts in the Human resource field, particularly as it related to human resource-based view to meaningful organization outcomes and in due course excellence. Therefore, we hypothesize that human resource practices lead to positive impact to operational excellence.

2.3.3 ORAGNIZATIONAL CULTURE

Operational excellence is an enterprise culture that improves the way a corporation delivers products and services to its customers. Operational excellence calls for more than subject matter expertise and a talented internal team. It requires a deep commitment and a culture of change. Changing to a culture of continuous improvement usually requires a paradigm shift. This change requires taking risks, opening up the firm culture and a great capacity to learn [38]. [39] suggested that a link between corporate culture traits such as consistency, mission, involvement, and adaptability and business performance exists. These four different aspects of culture can be stressed by different functions. Its *consistency* and *mission* either tend or to encourage or promote stability. However, the *involvement* and *adaptability* allow for change. Furthermore, consistency and involvement see culture as focusing viewpoint on internal dynamic of the organization. It mission and adaptability see culture as a way of life in addressing the relation between the organization and its external environment.

The present study embraces on managing change and focus on internal organization, therefore, the *involvement trait* (Internal Focus) is the best dimension to evaluate its effecting desired change within organization ([39], [40]). This trait is measured by the three indices namely empowerment, team orientation and capability development. In addition, [41] found empirical support for the involvement view of culture, higher levels of employee participation were correlated with better organizational performance. Whilst organizational culture has been researched worldwide, little research has been done in Malaysia, with its unique culture and concentrated business environment.

2.3.4 COMMITMENT TO CHANGE

Past studies have found that many significant organizational change initiatives fail to meet expectations although people are increasingly aware of the need for change [43]. In addition, one commonly cited cause for the lack of success of

organizational change is “resistance to change” [44]. Because of this resistance, it is unsurprising that change is a phenomenon encouraging strong visceral responses. Employee commitment to change can impact organizational change either positively or negatively ([45], [54]). Thus, a firm cannot afford to ignore its employees’ commitment to change which may have an effect upon the operational performance of that organization.

Commitment is arguably one of the most vital factors concerned with employee’s support for change initiatives [45]. [46] found that the most prevalent factor contributing to failed change projects is a lack of commitment by the people. For instant, strategy implementation may need a commitment from the employee himself. Despite its presumed importance and common identification as an essential factor for the effective implementation of organizational change, little empirical evidence exists to support this claim ([45], [47]). Hence, the moderating effect of affective commitment to change (ACTC) will be examined in this study. Yet, previous study on change management has not included the effect of ACTC per se as a factor that is able to moderate operational excellence. On this basis of such arguments, the researcher expects to see greater effect of affective commitment on the relationship between change management and OPX.

Overall, literatures indicate that firm managing change is vital in ensuring competitive advantage to the firms [48]. In essence, effective approaches in organizational change will involve not only one factor but also have to understand other relevant factors of entire organization. Moreover, change management and these soft factors have not being integrated in any research which develop new knowledge in the study of operational excellence. Integrating change management maturity with associated soft factors in order to remain competitive, is absent in most Operational Excellence initiatives.

2.4 HYPOTHESES AND THE RESEARCH MODEL

Based on the previous literature, four main hypotheses and three sub-hypotheses were proposed. The relationship among the various factors discussed in this literature is depicted in a framework as shown by Fig. 1 below. Based on the literated syntheses, the authors develops a linkage that the change management factors are likely to have impact on operational excellence of the organization only in situations where change management practices are implemented. In addition, the moderating influence of ACTC on the relationship between change management and OPX are examined.

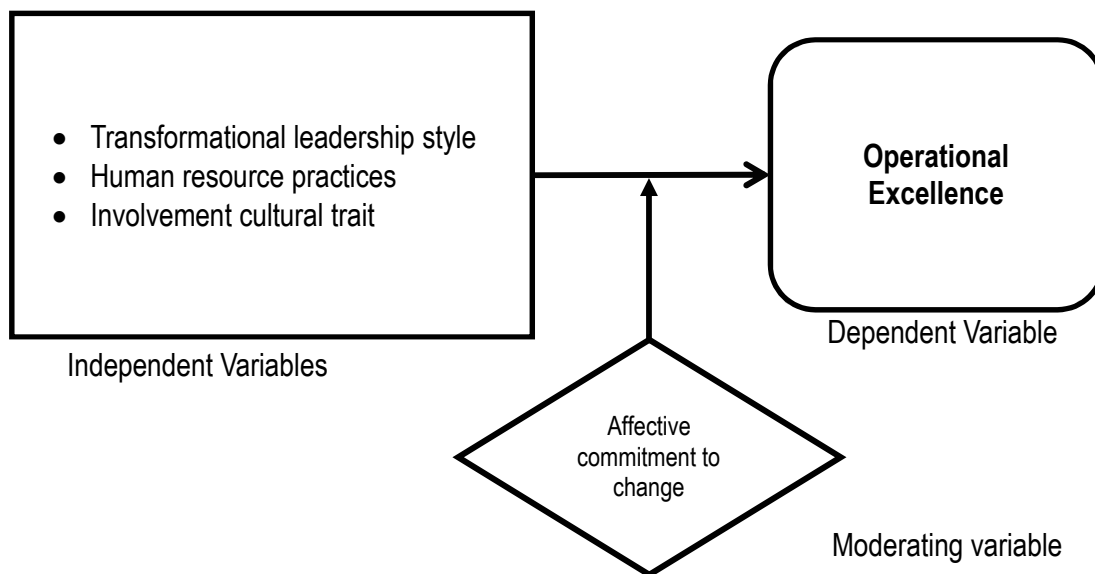


Fig. 1. Theoretical framework

H₁: The inclination towards the transformational leadership style leads to achieving operational excellence.

H₂: Effectiveness of human resource practices leads to an impact on achievement of operational excellence.

H₃: Higher levels of individual involvement cultural trait leads to an impact on operational excellence.

H₄: Employees’ affective commitment to change will moderate the relationship between the change management and achievement of operational excellence.

Specially:

H_{4a}: Employees' affective commitment to change will moderate the relationship between transformational leadership style and achievement of operational excellence.

H_{4b}: Employees' affective commitment to change will moderate the relationship between human resource practices and achievement of operational excellence.

H_{4c}: Employees' affective commitment to change will moderate the relationship between involvement cultural trait and achievement of operational excellence.

3 RESEARCH METHODOLOGY

3.1 POPULATION AND SAMPLE SIZE

The nature of the problem in this study determines that it leans more towards a causal. The main goal of causal research is to identify cause-and-effect relationship among variable [49]. The literature review was carried-out in sufficient details to provide the understanding on the change management, affective commitment to change and operational excellence. The researchers also investigated how the previous studies done in order to study the relationship of change management, affective commitment to change and operational excellence. Therefore, the researchers believed that it is appropriate to consider the manager who involved in the manufacturing operations to give inputs on the subject matter. In this context, samples of the population are drawn from the FMM-MATRADE Industry Directory Electrical and Electronics Malaysia 2007/08 [50] and Federation of Malaysian Manufacturers (FMM) Industry Directory 2012 of Malaysian Manufacturers [51]. The sampling frame of this study is the manufacturing companies from electrical and electronics industry situated in Malaysia. By using systematic random sampling method, 321 firms were identified from population of 1952 firms. All questionnaires were distributed to the respondents using postal mail. The unit of analysis for this study was organizational where one respondent represent one organization. Between February 2013 and June 2013, a total of 121 usable questionnaires were obtained which yielding a response rate of 37.7 percent. Therefore, the response rate was normal and acceptable as compared with past studies in Malaysia.

3.2 INSTRUMENT DEVELOPMENT AND MEASUREMENT

The survey questionnaire was developed based on early studies ([23], [39], [40], [45], [52], [53], [55], [56]). The Table 1 summarizes the reliability test of the measures. The results showed that all the Cronbach's Alphas measures were above the lower limit of acceptance ($\alpha > .70$). Therefore, all the measures were highly reliable [57].

Table 1. Summary of Variable Measurement

Variables Names	Cronbach's Alpha	N of Items	Authors
Operational excellence	.942	23	[23], [52], [53].
Transformational leadership style	.915	12	[55].
Human resource practices	.843	12	[56].
Involvement cultural trait	.772	9	[39], [40].
Affective commitment to change	.892	6	[45].

In a Likert scale, each respondent will be asked to indicate the extent of each statement on a five-point. The options given in the questionnaires for Section A are "strongly disagree (1)"; "disagree (2)"; "Neutral (3)"; "agree (4)"; and finally "strongly agree (5)". For Section B, respondents are requested to rank their answers to 5-points Likert-type interval scale, ranging from 1 for "worst in industry (1)"; 2 for "bad in industry"; 3 for "average in industry"; 4 for "good in industry" and 5 for "best in industry". Thus, researchers were able to solicit answers about the given statement through a set of response keys.

3.3 RESPONDENT'S PROFILE RESPONDENT'S PROFILE

3.3.1 PROFILE OF THE RESPONDENT COMPANIES

The E&E industry is further breakdown to four sub-sectors which included (1) consumer electronics (2) electronic components (3) industry electronics and (4) electrical products [58]. As presented in Table 2, the majority of the

manufacturing firms that responded to the survey were under the electronic component sector which comprised 43.8 percent of the number of respondents, followed by those in industrial electronics (24.8%), consumer electronics (15.7%) and electrical products (15.7%).

Table 2. Respondents by Sub-sector

Sub-sector	Frequency	Percent	Valid Percent	Cumulative Percent
Electronic components	53	43.8	43.8	43.8
Industrial electronics	30	24.8	24.8	68.6
Consumer electronics	19	15.7	15.7	84.3
Electrical products	19	15.7	15.7	100.0
Total	121	100.0	100.0	

3.3.2 PROFILE OF THE RESPONDENTS

For ease of understanding is a tabulation of the profiles of the respondents as per Table 3. In terms of gender, the majority of the respondents were male which comprised of 71.9 percent as compared to their counterparts at 28.1 percent. Generally, 45.5 percent of the respondents are from the age between 36 and 45 followed by age above 46 (34.7%), then age between 18 and 35 with a response if 19.8 percent. This showed that majority of the questionnaire were answered by the middle and senior management from manufacturing companies. Most of the respondents (33.1%) have less than 5 year's tenure employment to their current companies. In contrast, 31.4 percent of the respondents have more than 16 years attaching to their current companies. The remaining respondents were between 6 to 10 years are 21.5 percent and between 11 to 15 years are 4.0 percent respectively. Almost half of the questionnaires are answered by the middle management (50.4%). Other respondents, which represent 24.8 percent of lower management, 20.7 percent of senior management and 4.1 percent of professional. The professional group includes Consultants and Advisors. The results imply that majority of the E&E manufacturing companies have followed the requirements as stated in the cover letter which attached with the questionnaire.

Table 3. Profile of the Respondents

Characteristics		Frequency (n = 121)	Percent (Total 100%)
Gender:	Male	87	71.9
	Female	34	28.1
Age:	Between 18 to 35 years	24	19.8
	Between 36 to 45 years	55	45.5
	Above 46 years	42	34.7
Number of years working in this company:	Less than 5 years	40	33.1
	Between 6 to 10 years	26	21.5
	Between 11 to 15 years	17	14.0
	More than 16 years	38	31.4
Position held:	Lower management	30	24.8
	Middle management	61	50.4
	Top management	25	20.7
	Professional	5	4.1

3.4 FACTOR ANALYSIS

The factor analysis was based on principal component analysis (PCA) with Varimax rotation for all components. In determining the factorability of the dimensions, the Bartlett's test of Sphericity had to be significant and the Kaiser-Meyer-Olkin (KMO) Measure of sampling adequacy had to be more than 0.50 in order to be acceptable [57]. The following Table 4 shows the results of all variables. The Kaiser-Meyer-Olkin (KMO) measures of sampling adequacy from 0.692 to 0.906 which

all above 0.5 acceptable level [59]. All results indicate that factor analysis can be conducted on the data ([57], [60]). Moreover, there is a sufficient correlation among the analyzed items when Bartlett's test was significant (Sig.0.000).

Table 4. KMO and Bartlett's test

		OPX	TLS	HRP	ICT	ACTC
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.881	.906	.797	.692	.851
Bartlett's Test of Sphericity	Approx. Chi-Square	1590.599	757.645	555.269	410.166	394.277
	Df	190	66	66	36	15
	Sig.	.000	.000	.000	.000	.000

OPX=Operational excellence; TLS= Transformational leadership style; HRP= Human resource practices; ICT=Involvement cultural trait

3.5 DATA ANALYSIS

The data analysis tools such as Statistical Package for Social Science (SPSS) software will be used to process the data obtained from this survey. Responses on all parts of the questionnaire will be analyzed using frequency, means, standard deviations, reliability, and inter correlations to calculate different characteristics of the data. Factor and reliability analyses to test the goodness of measures, descriptive statistics to describe the characteristic of respondents, and correlation analysis to describe the inter correlation among the variables. Moreover, multiple regression and hierarchical regression analysis were used to achieve the objective with testing the hypothesis.

4 RESULTS AND DISCUSSION

4.1 DESCRIPTIVE ANALYSIS

The means and standard deviations of each variable were shown in Table 5. The results of Pearson's correlation test for independent variables and dependent variable was shown in Table 6. This result revealed that all the independent variables and dependent variable were positive and significant at a level of 99 percent. The strength of relationship varies from lowest at 0.417 and to the highest at 0.611. These findings support the notion that change management factors as predictor variables had a positive correlation and linear with operational excellence. On the other hand, the correlation was also further evidence of validity and reliability of the measurement scales used in this study.

Table 5. Means and Standard Deviations

	N	Mean	Std. Deviation
Transformational leadership style	121	3.6515	.56765
Human resource practices	121	3.7576	.48233
Involvement cultural trait	121	3.7530	.41857
Affective commitment to change	121	3.6501	.70165
Operational excellence	121	3.7373	.48899

Table 6. Pearson's Correlation Test for Independent Variables and Dependent Variable

	Transformational leadership style	Human resource practices	Involvement cultural trait	Affective commitment to change	Operational excellence
Transformational leadership style	1				
Human resource practices	.524**	1			
Involvement cultural trait	.559**	.587**	1		
Affective commitment to change	.431**	.417**	.417	1	
Operational excellence	.611**	.607**	.561**	.480**	1

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

4.2 TESTING OF HYPOTHESES

Three steps of hierarchical regression analysis were performed. The first step or Model 1 in Table 7 indicates the relationship between the three independent variables and dependent variable. The Beta value of transformational leadership style (.296), human resource practices (0.323) and involvement cultural trait (.211) with R square 0.505, which indicated that those independent variables significantly ($p < 0.05$) related to the dependent variable. The data showed that concern for human resource practices has a greater effect on operational excellence rather does than transformational leadership style and involvement cultural trait. In this step, these elements explained 50.5 per cent of variance of operational excellence. In sum, results from the analysis of first step shows that among soft factors of change management which were proposed to have a significant relationship with operational excellence, all of them namely transformational leadership, human resource practices and involvement cultural trait were significantly supported.

The second step showed that the Beta value of transformational leadership was .263; human resource practices was .291; all were significant at $p < 0.05$. The finding indicated that the add-on moderating variable, affective commitment to change was also significant ($p < 0.05$) with Beta value at .115. In a similar step, the R square was 0.526, which meant that 52.6 per cent of variation could be explained by the model. If these 2 models are compared, Model 2 has greater effect than Model 1. In sum, two independent variables including transformational leadership style and human resource practices remained positive and were significantly related with operational excellence. Affective commitment to change was also positive significantly related with operational excellence

At the final step or Model 3, when the interaction terms were entered, an increase in R square by another 3.1 per cent was observed. The result also revealed that the adjusted R square increased from 50.5 per cent under Model 1 to 52.6 per cent in Model 2 and reached 55.7 per cent in Model 3. This shows that more was explained with the additions of moderating variables. There is a significant F change of 2.636 that indicates a moderate effect from the moderating variable in the relationship between the predictors and criterion variables. The interaction term used to compute regression coefficients was the product of scores of the two predictor variables. In this study, only one interaction produced a significant relationship, which was interaction between transformational leadership style and affective commitment to change, with B was -.213. However, the Beta values in the third step cannot be interpreted as there is bound to be the problem of multicollinearity. Therefore, the researcher plotted line graphs to see the interaction effect.

Table 7. Summary of Hierarchical Regression Analysis

	Model 1	Model 2	Model3
Variables	B	B	B
Transformational leadership style	.296*	.263*	1.031*
Human resource practices	.323*	.291*	.377
Involvement cultural trait	.211*	.178	.061
Affective commitment to change		.115*	.783*
Transformational leadership style X Affective commitment to change			-.213*
Human resource practices X Affective commitment to change			-.029
Involvement cultural trait X Affective commitment to change			.064
R square	.505	.526	.557
Adjusted R square	.493	.509	.529
R square changed	.505	.020	.031
F	39.839	32.130	20.266
F Change	39.839	4.958	2.636
Std. Error of the Estimate	.34778	.34205	.33503
Durbin-Watson		1.971	

Note: B = Beta (Unstandardized Coefficient); * Correlation is significant at the 0.05 level (2-tailed); ** Correlation is significant at the 0.01 level (2-tailed)

As show in Fig. 2, the graph indicate that, with high ACTC, there is slightly positive relationship between OPX and transformational leadership style but a positive linear relationship occurs for firms with low ACTC. Thus, high ACTC does not have much effect in the situation of an inclination towards the transformational leadership style in the achieving operational excellence. Conversely, high affective commitment is required in the situation of low transformational leadership style implementation. When affective commitment is low, the highest level of transformational leadership style practice is associated with the highest achievement of OPX. The hierarchical regression test was statistically significant ($B = -.213$, significant at .017).

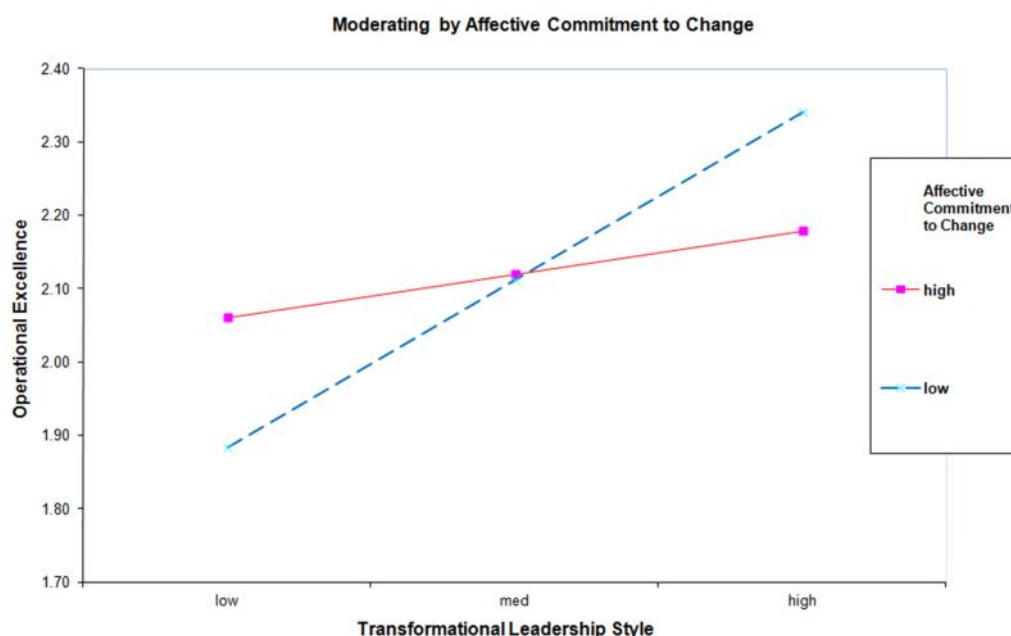


Fig. 2. The Relationship between Transformational Leadership Style and Operational Excellence with Affective Commitment to Change as a Moderator

The plotted graph for Fig. 3 shows high ACTC has a slightly positive effect on the relationship between human resource practices and OPX. Implementation of human resource practices becomes effective when a high degree of ACTC is present in the work place. Similarly, a low degree of ACTC would have slightly increased in achieving OPX when implementing human resource practices. This finding aligns with the fact that if an organization put more efforts into human resource practices, they also need higher affective commitment of employees to achieve higher OPX. However, the hierarchical regression test statistically showed no significant ($B = -.029$, significant at .778).

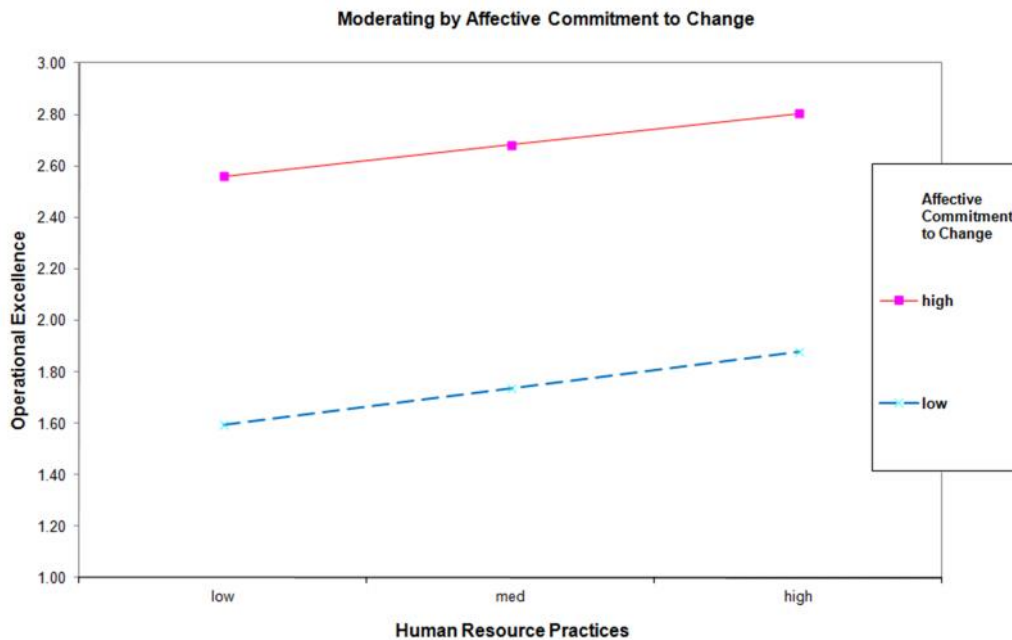


Fig. 3. The Relationship between Human Resource Practices and Operational Excellence with Affective Commitment to Change as a Moderator

Finally, is ACTC effect a moderator in the relationship between involvement culture trait and the achievement of OPX? As shown by plot graph in Fig. 4, a positive relationship between involvement cultural trait exists with the presence of either low or high ACTC. Low ACTC will be achieved slightly better excellence performance of firms even with the increase of the level of involvement cultural trait. In contrast, high ACTC will lead to achieving a firm's excellence performance even with the presence of low involvement cultural trait. The hierarchical regression test showed no significant ($B = .064$, significant at .538).

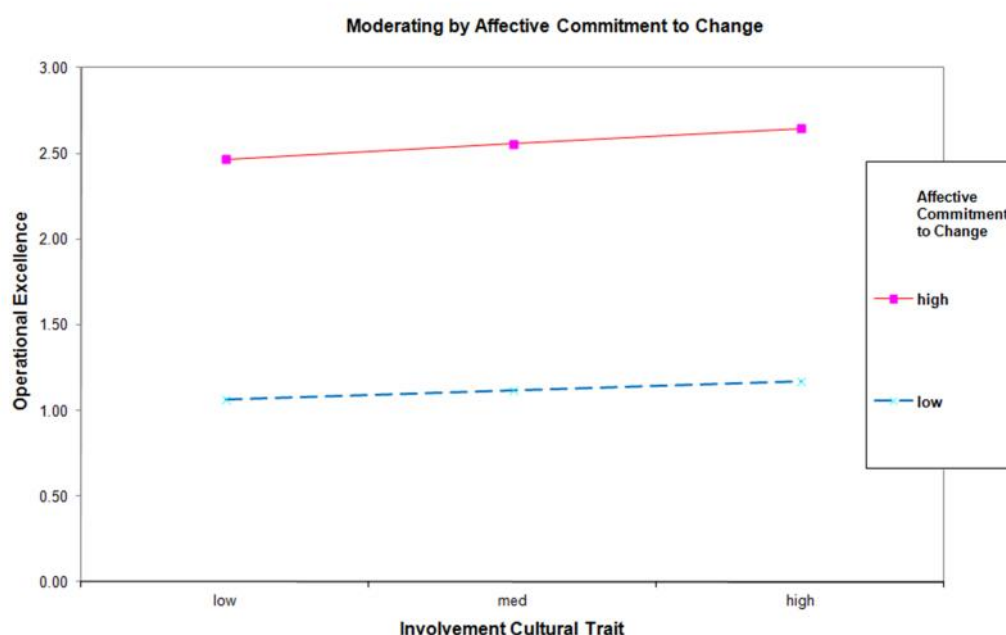


Fig. 4. The Relationship between Involvement Cultural Trait and Operational Excellence with Affective Commitment to Change as a Moderator

H₄ hypothesized a moderating effect of moderator on the relation between interaction (independent variable and moderator) and dependent variable. Interaction effects represent the combined effects of variables on the criterion or dependent measure. The effect of one variable depends on the level of the other variable when an interaction effect is present. From hierarchical regression analysis, it can be concluded the interaction between transformational leadership style and affective commitment to change was statistically significantly ($p < 0.05$) related to the achievement of operational excellence. An affective commitment to change is a quasi moderator moderating this relationship. Other interaction terms such as human resource practices and affective commitment to change, involvement cultural trait and affective commitment to change were not statistically significant at a 0.05 confidence level related to operational excellence. Hence, they are pure moderators in this relationship. Thus, the researcher summarized hypotheses H_{4a} was supported, where H_{4b} and H_{4c} were not supported. Overall, H₄ was partially supported.

4.3 DISCUSSIONS

This paper is focused on linking between the change management to operational excellence, and employee' affective commitment to change (ACTC) as a moderating variable within E&E companies of Malaysia. Furthermore, the paper organises the burgeoning change management literature soft factors, which are transformational leadership, human resource, and organizational culture. The purpose of this study is to give an increased understanding of the operational excellence in Malaysian manufacturing industry and its implication on activities concerning organisation and managing change.

The respondents were top managers and those identified as responsible in running the companies which closely linked to manufacturing operations including General Manager, Operation Manager, Factory Manager, Production Manager, Engineering Manager, Manufacturing Manager, Planning Manager, Materials Manager, Lean Manager and Project Manager (involve in Change Management or Continuous Improvement programs). So this study cannot be used to represent the operational of others industry because the effect of change management to operational excellence could be different.

Responding to the hypotheses, this study found all three soft factors of change management have effect on the achievement of the company's operational excellence. In respond to the findings, transformational leadership style, human resource practices and involvement cultural trait were found to have an effect on the achievement of operational excellence for Malaysian E&E manufacturing companies. The hypotheses were positive and significant and thereby confirmed.

This study has provided evidence that transformational leadership style have a significant positive effect on operational excellence. The hypothesis, H_1 accepted is not surprising because strong theoretical and practical support transformational leadership is enacting change successful. Present study also concur with the findings of past study by [34], and [35] who claimed that the transformational leadership style can produce positive organizational change and create exceptional performance. Furthermore, transformational leadership is directly correlation to long-term high performance [61], therefore, towards business sustainability.

This study adds another perspective into the earlier findings conducted in Malaysia, [28] found that the transformational type of leaders will give impact to company performance if best practices management takes place. Under these argument, transformational leader who promote the adoption of best practices leads to superior performance. This finding is consistent with the results from prior studies ([52], [62], [63]) on companies that adopted best practices showed better operation performance. In this study, the effect of transformational leadership style on achieving operational excellence is supported. In other word, lower and middle management of Malaysian E&E manufacturing companies perceived their top management use transformational leadership style in pursuing excellence.

The statistical result also revealed that the human resource practices have effect on operational excellence of Malaysia E&E manufacturing companies in this study. Therefore, the hypothesis, H_2 is fully supported. This finding is consistent with earlier studies by [25] who argue human resource is an intellectual asset that channelizes for sustained organizational excellence and has a positive effect on the firm's performance [64]. This study also support past studies that the human resource practices included recruitment and selection, training and development, performance appraisal, and compensation and benefits, are human resource tools use by organization to achieve excellence ([37], [25]).

The aforementioned results have also provided the required empirical support that influence of human resource practices indicating positive and significant relationship on organizational performance in the area of research for the past 25 years [65]. The finding of present study provides empirical evidence again on the role of human resource practices on the achievement of operational excellence. Obviously, the human resource has taken into account as a crucial factor in E&E organizations to develop internal capabilities for better fit with changing environment.

The result indicates that the involvement cultural trait, H_3 does significantly have impact in achieving operational excellence. This finding appears to be consistent with previous study that argued involvement as the most important dimension of culture for firms whose focus was employee satisfaction and overall performance [66]. Past studies by [67] stated that organizational culture is a key foundation for the high-performance work practices, and employee involvement such as teamwork, capability development and empowerment positively influence outcomes measures. For example, high performing E&E firms motivate their employees to achieve superior results by making decisions at the lower level. In addition, high performing E&E firms have organizational structure based on teams, therefore they encourage teamwork. Moreover, E&E firms continually invest in improving their employees' skills. Hence, the high levels of employee involvement in the company's activities did play an important and integrated role in achieving operational performance outcomes.

The success of organization lies on how well the employees are empowered to take decisions through building their capabilities and harnessing their skills. Indeed, an organization with a high level of employee involvement will develop the employees' capability at all levels and create a sense of ownership, responsibility, and loyalty toward their organization. Another plausible reason of significant relationship between involvement cultural trait and operational excellence was in the way the culture trait was measured. Past research showed that internally focus traits involvement is generally better predictors of operating performance measures such as quality, flexibility, employee satisfaction ([41], [42]) and change [40]. The finding of present study pointed to high involvement of employees as relatively important influential culture traits in determining operational excellence in the context of the Malaysia E&E industry.

In this study, hierarchical regression analysis was utilized to test the effects of moderators on OPX. The moderator effect was identified so that the results could add insights into its usefulness with respect to the relationship between each of the change management factor and OPX. Obviously, the test was used to achieve the final objective of this study concerning whether the variable is a moderator and whether it interacts with the predictor as a moderator.

These findings disclosed that transformational leaders who encourage their followers to think creatively and critically could have an influence on their followers' commitment [68]. Moreover, [30] noted that transformational leaders focused on traditional needs to fulfill higher levels of human needs such as trust, integrity, delivers true value, actualization, rather than on having merely an eye for exchanging one thing for another. Hence, it logically stands to reason that in the workplace, a transformational leader has an ability to motivate followers effectively to engage in behaviors known to have positive outcomes for the organization. For example, once employees are motivated towards accomplishment of an end, ACTC will play a moderating role to effect the relationship.

In hierarchical regression analysis, the result indicated that ACTC does not significantly moderate the relationship between human resource practices and operational excellence. Because employees' affective commitment ('want to') has no moderating effect between human resource practices and operational excellence, the normative commitment because employee 'need to', and continuance commitment because employee feel they 'ought to' do so (suggested by [45]) which were omitted from this study could be further investigated. That is because the mind-sets of the perceived cost of leaving with respect to continuance commitment, and mind-sets of perceived obligation to remain with respect to normative commitment are more aligned with performance appraisal and compensation systems under human resource practices.

The final moderated relationship, the results did not support the role of ACTC as a moderator in the positive relationship between the involvement cultural trait and achievement of OPX in change organization. Based on this positive relationship, a reasonable argument could be made that the involvement cultural trait is a company or corporate culture [40] that has been embedded in the organization a long time ago, which shapes employee behaviour and involvement, participation in change. Moreover, employees' affective commitment is likely to be required to ensure a willingness to work cooperatively with others and to exert extra effort to achieve the objectives of the change [45]. Corporate culture has an indirect influence on employees' decision-making, team orientation, and capability development ([39], [40]). Thus, a high level of individual involvement cultural trait did require higher employee's ACTC in achieving better performance.

In overall, present study supports resource-based view (RBV) theories. The RBV on inimitable recourses and dynamic capabilities suggest that organizational should have their own competence according to knowledge resources. These competencies must be rare and unique. Moreover, researchers also found many of resources and capabilities on which competitive advantage is based reside in the operations function [14]. Firstly, RBV may assist operations reach up to the leadership of excellence. Secondly, RBV helps to providing clear rules to develop and train human resource and retain talents in a systematic manner. Thirdly, the involvement cultural trait that is originated from organizational culture is unique and hard to imitate by any rival firms. Thus, the argument established in this study was transformational leadership style, human resource practices and involvement cultural trait. Lastly, the affective commitment to change has little influence on organizational change if internal resources are utilized fully.

5 CONCLUSION, LIMITATIONS AND FUTURE RESEARCH

5.1 SUMMARY OF FINDING

This study is on the relationship among the change management and operational excellence. The multiple regression results revealed that the transformational leadership style, human resource practices and involvement cultural trait statistically significantly and positive relation with the achievement of operational excellence. The results of hierarchical regression indicated that only one interaction item, transformational leadership and affective commitment to change (moderator) had a moderating effect on the relationship between change management and achievement of operational excellence. Approaches to theory uses, this study utilize resource-based view.

5.2 LIMITATION AND DIRECTIONS FOR FUTURE RESEARCH

The conclusions drawn from present study should be interpreted in a limited way, which would potentially represent opportunities for further exploration in future research. First, this study is a cross sectional study, as it is carried out once and represents the issue at a specific time. Therefore, future study may look into a longitudinal study in order to expand the findings that are pre-changes and post-changes. Second, this study used the Electrical and Electronics (E&E) manufacturing firms that have high foreign ownership but also many restrictions in responding to the study. It is suggested that using Malaysian local owned firms like small-medium enterprise (SME) or small-medium industry (SMI) may add more insight. In addition, future study in service industry will add richness to the area of interest. Third, this study had proven the important of few change management factors in affecting the achievement of operational excellence. In contrast, further studies could focus on others factors or dimensions which have been excluded in this study. Fourth, future study can also investigate the change management due to external environment. Perhaps it will be able to provide a new insight on how firm react to external force and also improve the operational performance.

5.3 IMPLICATION AND CONCLUSION

An evident in the data analysis findings above, this study has provided several contributions to practice, methodology and theory. The practical implications for E&E manufacturing organization is success in change initiatives depends on proper

integration of transformational leadership style, human resource practices and involvement cultural trait. On the other hand, understanding all three components of commitment to change also helps a firm in ensuring that operational excellence is well taken care of.

Hence, management is advised to establish policy, systems and process that integrate three soft factors in their planning and strategic direction. On the other hand, the finding is hoped to provide the managers with the insight in order to assist them to identify the appropriate operational excellence model based on organizational needs. As for methodology contribution, this study was add-on sustainability performance metrics (non-economic measure) on top of the conventional performance metrics (economic measure) in a composite performance index by averaging scores across the six performance indicators. Since sustainability is very important aspects of today business environment [23], therefore, this methodology can be validated in future research to measure operational excellence or business excellence. The new measurement method in this study also could fill up the perceived performance gaps by merging both economic and non-economic measures. From the theoretical perspectives, it is discovered the originality in terms of the model to reflects a growing interest in extending operational management paradigms to emerging in developing country context, particularly on the knowledge on the insight of change management and operational excellence. In contrast to most previous studies identified each of factor separately, this paper will be among the first few studies that examine the soft factors of change management to predict operational excellence. The integration of soft factors in this study has developed new knowledge that could assist theory building efforts particularly in the operation management field and organizational change management. The researcher might use the findings for further research.

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